LOUISIANA Conservationist

September/October 2002
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Dedicated to the conservation and restoration of Louisiana's natural resources.
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Comments

By Phil Bowman,
Assistant Secretary, Wildlife

A newly emerging disease of deer and elk has received the attention of the North American wildlife community in the last year. This disease, known as chronic wasting disease (CWD), is one of several diseases known as transmissible spongiform encephalopithies (TSE). Other better known TSE diseases include mad cow disease in cattle, scrapie in sheep and Creuzfeldt Jakob disease in humans. CWD has been found in wild deer in parts of Colorado, Wyoming, Wisconsin, Nebraska, South Dakota, and most recently New Mexico. This disease has also been found in approximately 60 captive deer and elk herds in six states and two Canadian provinces. In response to these outbreaks, some state wildlife agencies have made the difficult decision to kill thousands of wild deer and elk in an attempt to stop the spread of CWD.

In an effort to prevent the introduction of CWD into Louisiana, the Louisiana Wildlife and Fisheries Commission passed a rule prohibiting the importation or transport of live deer into or through our state. The Louisiana Livestock Sanitary Board also imposed a quarantine, restricting the entry of deer and elk into Louisiana.

While these actions should help prevent the entry of CWD into Louisiana, we are by no means immune. The proliferation of captive deer enclosures in recent years has increased our vulnerability to CWD and other diseases. When animals are kept in close confinement, the opportunity for disease transmission increases. The movement of animals between enclosures when they are sold or traded exacerbates the danger. Since enclosures are not escape-proof, disease outbreaks in enclosures have implications to wild deer. Compelling circumstantial evidence suggests that at least some CWD outbreaks in wild deer and elk may have originated from deer and elk enclosures.

The advent of CWD has focused attention on the issue of captive deer. There are about 250 licensed deer enclosures in Louisiana. The size and number of deer held within these enclosures is highly variable. Some enclosures are small and contain only one or two deer for pets, while others may consist of several hundreds of acres managed for hunting.

We believe that the time has come to seriously re-evaluate state regulations and laws that allow keeping cervids (white-tailed deer, elk, etc.) as pets or livestock. In addition to the wildlife disease concerns, there are other important issues to consider. Animal welfare concerns arise from confining wild animals in relatively small pens and treating them as livestock rather than wildlife. The department has long had concerns about the ethics of "put and take" deer hunting in enclosures under artificial situations. Hunting is an honorable pursuit and a legitimate use of wildlife, but we believe shooting deer under such conditions taints the sport, the

Continued on page 31

Louisiana Conservationist
ISSN 0024-6778
Volume 54, No. 5
Baton Rouge, LA 70808

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The Louisiana Conservationist is published bimonthly except January/February by the Louisiana Department of Wildlife and Fisheries, 2000 Quail Drive, Baton Rouge, LA 70808, 225/765-2918. Periodical postage paid at Baton Rouge, LA and additional mailing offices. POSTMASTER: send address changes to Louisiana Conservationist, P.O. Box 98000, Baton Rouge, LA 70898.

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This public document was published at an average cost of $51,751.60. Approximately 26,500 copies of this document were published at an average printing cost of $23,910.44. The total cost of all printing of this document averages $23,910.44. This document was published for Department of Wildlife and Fisheries, 2000 Quail Drive, Baton Rouge, Louisiana, 70808, by LSU Graphic Services, to provide information on outdoor opportunities in Louisiana. This material was printed in accordance with the standards for printing by state agencies established pursuant to R.S. 43:31. Printing of this material was purchased in accordance with the provisions of Title 43 of the Louisiana Revised Statutes.

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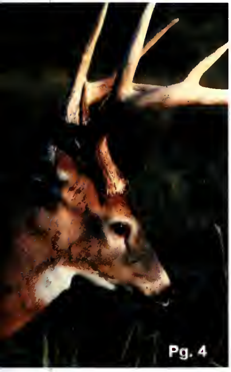
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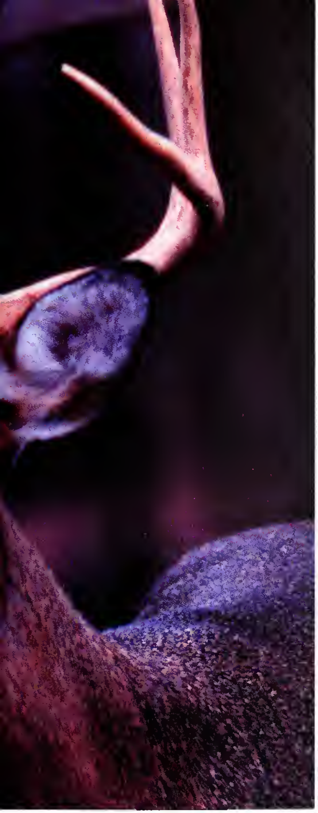
Published by the Department of Wildlife and Fisheries in the interest of conservation of Louisiana natural resources.

Signpost Trees

A HUNTER'S GUIDE TO RUBS AN

STORY BY DAVID MORELAND

Every fall signposts begin to appear throughout the
signposts are not the typical ones that people are fa
Trespassing" or "Hunting Prohibited." Instead, th
been rubbed or hooked by the antlers of white-tail
do not resemble the ones we have on our roads, they do s
The message is directed to other white-tails in the forest ar



LDWF File Photo

CRAPES

ts in Louisiana. Now these
with. They do not say "No
gnposts are trees that have
cks. While these signposts
o communicate a message.
convey different signals.

All deer hunters are familiar with these signposts or buck rubs. In the fall, an increase in the testosterone level of a buck signals his antlers to stop growing. A mineralization process begins which hardens the antlers, the velvet dries up, and the buck begins to rub the antlers on different trees and shrubs.

As a buck travels from bedding areas to feeding areas he will make periodic rubs along the way. Hunters look for these rub lines because they indicate a travel corridor. These rubs are usually made on the side of the tree in the direction of travel. Thus, the hunter is able to establish movement patterns of the bucks. It is not uncommon for several bucks to rub on the same tree.

A buck has glands on his forehead at the base of the antlers. While rubbing on the trees, the buck will deposit a scent on the tree or shrub. This scent is a means of communicating with other deer, both bucks and does.

Table 1
Rub Tree Survey, Fall 2001

Plant	Number of Rubs
Horse Sugar	17
Pine	10
Magnolia	5
Tulip Tree	5
Red Maple	4
Devil's Walking Stick	3
Sourwood	3
Oak	3
Yaupon	2
Winged Sumac	2
Hop Hornbeam	2
Black Cherry	1
	Total 57

Scrapes are another means of communication among deer. A deer will paw away the leaf litter and other debris on the surface of the ground, leaving an exposed circle of dirt. The deer will often urinate and defecate in the scrape, thus leaving its scent in the scrape. Scrapes are often found along the edges of fields or along travel corridors in conjunction with the rubs. Scrapes are frequently made under trees having an over-hanging branch that the buck will hook and break with his antlers. Deer also mark these branches by rubbing their preorbital gland, located at the front corner of the eye, on the overhanging branches.

The buck may also chew or lick the broken over-head branch. Such branches are often referred to as a "licking branch". "Licking branches" may be utilized at other times of the year. One summer, while involved with a herd health check, I observed five different bucks with velvet antlers lick or rub a pecan limb along the edge of a cornfield. It is important to note that does will also make scrapes, urinate in the scrapes, and smell and lick the "licking branches."

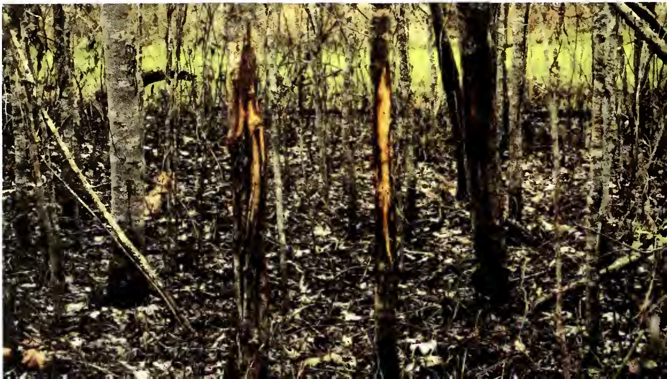
What does all this communication mean? Recent studies indicate that rubs and scrapes provide a means for communi-

Table II
Common Rub Trees of Louisiana

Gymnosperms	
Bald Cypress	*Taxodium distichum*
Eastern Red Cedar	*Juniperus virginiana*
Pine (especially Loblolly and Spruce)	*Pinus sp.*
Angiosperms: Dicotyledons	
American Holly (scrapes also)	*Ilex opaca*
Ash	*Fraxinus sp.*
Black Cherry	*Prunus serotina*
Black Willow	*Salix nigra*
Blackgum	*Nyssa sylvatica*
Chinaberry	*Melia azedarach*
Chinese Tallow Tree	*Sapium sebiferum*
Chinese Privet (scrapes also)	*Ligustrum sinense*
Deciduous Holly	*Ilex decidua*
Devil's Walking Stick	*Aralia spinosa*
Elderberry	*Sambucus canadensis*
Hawthorn	*Crataegus sp.*
Horse Sugar or Sweetleaf	*Symplocos tinctoria*
Large Snowbell	*Styrax grandifolius*
Oaks (scrapes also)	*Quercus sp.*
Peach	*Prunus persica*

The rubbing of these two trees in the photo below likely indicates their resistance characteristics rather than buck size.

Photo by David Moreland



cation during the breeding season and aid in priming both bucks and does for the rut. Hunters often set-up near rub lines and scrapes in hopes of connecting with a nice buck.

It is generally believed that large bucks use larger trees to rub on and small bucks use the small trees and shrubs. This is not necessarily true. Research has shown that size of a rub does not dictate deer size. Bucks will often spar with a tree or shrub and the resistance factor of the plant may be more important than size of the tree or shrub.

While all the trees in a forest may be subject rubbing, there are certain species that are rubbed more frequently than others. Such species are often aromatic (have an odor). The aroma of the tree may aid or assist the communication process.

Some of these trees are used every year. Sassafras, Eastern Red Cedar and Southern Magnolia are three species that often become annual signposts.

During my lunch break on a slow hunting day last season, I made a survey on about four acres in a mixed pine/hardwood forest. I walked parallel transects, about ten yards apart, making note of all scrapes and rubs. I found a total of 57 rubs and seven scrapes. There were five scrapes around yaupon shrubs, one scrape under a wax myrtle, and a scrape with associated rub under a horse sugar shrub. Table 1 shows the results of this impromptu survey.

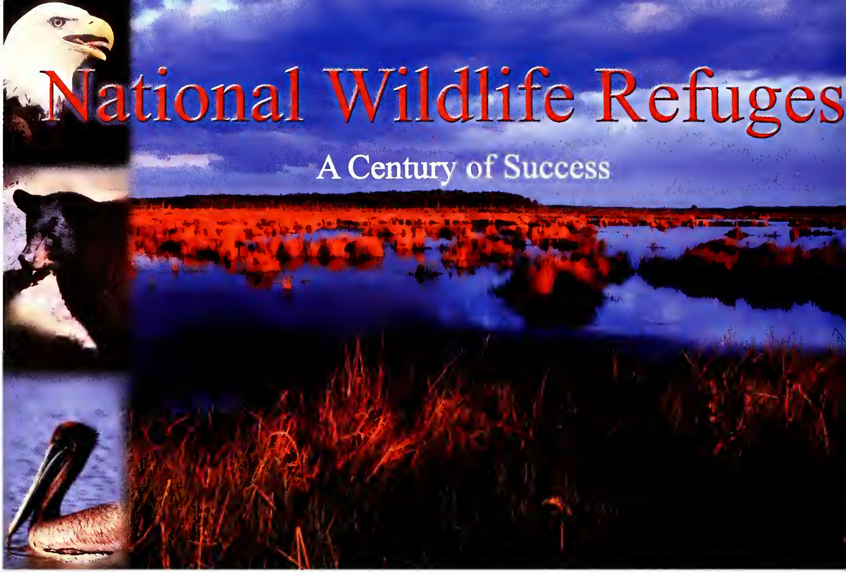
Photo by David Moreland

A buck deposits his scent by hooking the overhead branch of a beech tree.

As previously mentioned, almost any tree or shrub in the woods may be subject to rubbing by a buck. The following list of woody trees and shrubs contains many of the ones that hunters frequently encounter. The list was adapted from the *Atlas of the Vascular Flora of Louisiana* by R. Dale Thomas and Charles M. Allen. The atlas may be purchased from the Natural Heritage Section of LDWF. Dr. Thomas has provided much assistance to me with the identification of plants that have been browsed by deer.

Angiosperms: Dicotyledons	
Pear	*Pyrus communis*
Pecans and Hickories (scrapes also)	*Caraya sp.*
Persimmon	*Diospyros virginiana*
Red Mulberry	*Morus rubra*
Red Maple	*Acer rubrum var. rubrum*
Redbay	*Persea sp.*
Sassafras	*Sassafras albidum*
Silverbell	*Halesia diptera*
Small Snowbell	*Styrax americana*
Sourwood	*Oxydendrum arboreum*
Southern Crabapple	*Malus angustifolia*
Southern Magnolia (scrapes also)	*Magnolia grandiflora*
Swamp Red Maple	*Acer rubrum var. drummondii*
Sweet Azalea	*Rhododendron canescens*
Sweetbay	*Magnolia virginiana*
Sweetgum (scrapes also)	*Liquidambar styraciflua*
Waxmyrtle or Southern Bayberry (scrapes also)	*Myrica cerifera*
Winged Sumac	*Rhus copallinum*
Yaupon (scrapes also)	*Ilex vomitoria*
Yellow Poplar or Tulip Tree	*Liriodendron tulipifera*

David Moreland is an LDWF employee and the state Deer Study Leader. He is an official measurer for the Boone & Crockett Club, the Pope and Young Club and the Longhunter Society. David is also a regular contributor to the Louisiana Conservationist.



National Wildlife Refuges

A Century of Success

STORY BY JOHN N. FELSHER

Although President Theodore Roosevelt, the Spanish-American War Rough Rider and co-founder of the Boone and Crockett Club, hunted all over the world, conservationists today remember him more for what he saved rather than what he killed.

While he hunted just about every type of animal that moved, he always took time to observe the other living creatures that abound in nature. An astute student of natural history and ecology, Roosevelt remembered the abundance of game from his foray into cattle ranching in the Dakota Territory in the 1880s. As the 19th century drew to a close, he became alarmed at how quickly the once seemingly endless menagerie of North American wildlife began to disappear.

Just a couple decades prior to his administration, herds of American bison roamed the open prairies in what Native Americans called "in numbers numberless." They stopped wagon trains for days as massive herds passed trails. By the last decade of the 19th century, only a few hundred bison remained.

Single flocks of passenger pigeons once darkened the skies as they flew overhead. Market hunters shipped barrels of passenger pigeons in railroad cars to growing cities. In 1914, the last passenger pigeon died in the Cincinnati Zoo.

Great flocks of wading birds also disappeared from southern marshes and coastal islands to satisfy the fashion hunger of elegant women. They used the plumes to decorate their dresses and hats. By the time Roosevelt became president in 1901, many species of egrets, herons, pelicans and other birds appeared headed down the road to join the passenger pigeon.

Paul Kroegel, a self-styled naturalist in Florida, urged President Roosevelt to do something to protect disappearing birds. He did. On March 14, 1903, Roosevelt established Pelican Island Bird Reservation on three acres of shell and mangrove-covered beach on the Indian River of Florida and hired Kroegel to watch over the sanctuary. Roosevelt charged Kroegel with the mission of protecting the pelican population on the island from poachers and plume hunters.

Roosevelt and Kroegel could not save the passenger pigeon, but they could do something to help wading birds, pelicans, bison, elk, antelope, bears and other disappearing animals. They began a trend that eventually grew into the U. S. Fish and Wildlife Service National Wildlife Refuge System, which celebrates its 100th birthday next year.

Before Roosevelt left the White House in 1909, he established 55 refuges, several national parks or monuments and the U.S. Forest Service. That conservation legacy grows even stronger today. Now 538 refuges and more than 3,000 waterfowl production areas in the National Wildlife Refuge System protect about 94 million acres of land in all 50 states and some American territories.

"President Roosevelt was a great outdoorsman and saw what was happening to wildlife and decided to stop it," said Sam D. Hamilton, the regional director for the USFWS Southeast Region in Atlanta. "Like the majority of hunters today, the president took a great interest in the outdoors. He saw that many birds were becoming extinct and set aside some land for the preservation of wildlife. Today, the National Wildlife Refuge System is the largest assembly of land in the world dedicated to the preservation of wildlife."

In Louisiana, birds and other wildlife now thrive on 23 federal refuges encompassing more than 500,000 acres of marshes, swamps, pine forests, hardwood bottoms, lakes and nearly every other habitat found in the Sportsman's Paradise. From the Red River NWR near Shreveport to Delta NWR at the mouth of the Mississippi and from the Handy Brake NWR near Monroe to the 124,000-acre Sabine NWR southwest of Lake Charles, refuges conserve the diversity of Louisiana ecosystems.

Roosevelt himself recognized the need to preserve the wildlife diversity in Louisiana. One year after establishing the Pelican Island sanctuary, he created Breton National Wildlife Refuge in the Chandeleur Islands of St. Bernard Parish, the second oldest refuge in the country.

Despite the protection from the Pelican Island and Breton sanctuaries, the long-billed birds with the big pouches faced problems that Roosevelt and Kroegel could not imagine. By the early 1960s, pesticides nearly eradicated pelicans from the Pelican State. Run-off from the insecticide DDT accumulated in fish that pelicans ate, resulting in brittle eggs. Pelicans crushed their own eggs when they sat on their nests. Soon, Louisiana residents could only see the state bird if they looked at a flag. By 1961, only one breeding pair of brown pelicans remained. Two years later, even they disappeared from Louisiana wetlands.

In 1968, state and federal biologists began to release pelicans from Florida, where a few survived, to re-establish a breeding population in Louisiana. The project really took off after the U.S. Government banned DDT in 1973. Now pelicans thrive all along the Gulf Coast. Boaters now frequently see them sitting on dock pilings begging for fish.

"The pelican was headed toward extinction because of pesticides and pollution," Hamilton said. "It is now doing so well that we are very close to delisting it in the United States. The nests found on refuges are extremely important. Yellow-crowned night herons, snowy egrets and many other birds that exist abundantly in the Louisiana wetlands are also all doing extremely well now."

Land acquisition continues. Near Shreveport, the Red River National Wildlife Refuge became one of the newest refuges in the country. In June 2002, Congress approved the purchase of the first 1,377 acres along the Red River. The first refuge in northwest Louisiana, it will eventually grow to 50,000 acres.

"This new refuge will be an important sanctuary for a wide variety of Louisiana migratory birds, including mallards, pintails and wood ducks," said Sen. John Breaux (D-La.), a member of the Migratory Bird Conservation Commission. "Red River will also be a great resource for Louisianians – offering recreational and educational opportunities for students, scientists, bird watchers and anglers. The restoration of these native habitats will help ensure Louisiana continues to be a habitat for many species of migratory birds."

The Red River Valley serves as a major continental migration corridor for migratory birds funneling through the mid-continent. The area provides wintering habitat for waterfowl and production habitat for wood ducks. The USFWS plans to restore and maintain the habitat for various waterfowl and birds, endangered species and other wildlife.

"The Red River basin was cleared about 150 years ago for agriculture," Hamilton said. "Many of those lands flood quite frequently. We are planting trees and restoring the great hardwoods in that part of the river basin. Trees sequester carbon or pull carbon pollutants from the air and make oxygen for us to breathe. One acre of trees can remove 350 to 600 tons of carbon from air."

A map of the National Wildlife Refuge System, 100 years after inception.

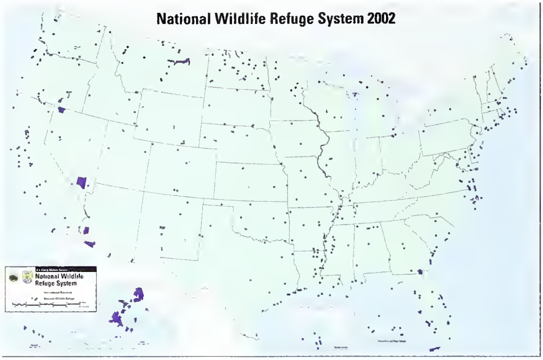

National Wildlife Refuge System 2002
National Wildlife Refuge System

Photo courtesy of USFWS

Red River NWR joins Bayou Teche NWR as the newest federal refuges in Louisiana. With 9,000 acres, Bayou Teche NWR opened in November 2001 near Franklin at the southern edge of the Atchafalaya Basin, the largest riverbottom swampland in North America. The area supports one of the few remaining populations of threatened Louisiana black bears in the country. The swampy St. Mary Parish tract remains the only refuge specifically created to conserve Louisiana black bears.

Biologists originally classified Louisiana black bears (*Euarctos luteolus*) as a separate species from the more common and nearly identical American black bear (*Euarctos americanus*). Now, biologists consider it a subspecies of American black bear. A few hundred bears live along the Tensas River and in the Atchafalaya Basin with the largest concentration in Tensas NWR in Madison, Tensas and Franklin parishes.

"We are going to see exciting new things happening in Louisiana," Hamilton said. "The primary reason for establishing Bayou Teche NWR is to protect the threatened Louisiana black bear. Together with our partners, we are committed to restoring the species throughout its historic range."

The banning of DDT use in 1973 and the relocation of pelicans into Louisiana after 1968 helped re-establish the population. Today the brown pelican thrives and is close to being delisted.

LDWF File Photo

A rich, bottomland forest, Bayou Teche NWR not only provides habitat for bears but seasonal migratory birds and waterfowl, whitetail deer, alligators, foxes, bobcats, otters and many other creatures. The refuge should also accommodate multiple public uses including fishing, hunting, bird watching, boating and wildlife photography. The refuge will eventually expand to include about 27,000 acres and become a prime resource for environmental education, interpretation and other wildlife-oriented recreation and research.

Black bears once roamed in great numbers throughout Louisiana. In October 1907, President Roosevelt led a hunting expedition through the swamps and canebrakes along the Tensas and Mississippi rivers near Tallulah. At that time, Roosevelt's guide claimed to have killed more than 3,000 Louisiana bears in the late 19th century. Some of the land Roosevelt hunted became the 64,012-acre Tensas NWR in 1980.

"We brought his great grandson to Tensas NWR a few years ago to re-enact that famous bear hunt," Hamilton said. "Having Theodore Roosevelt IV tell thrilling stories about his great grandfather was one of the most moving events of my life. With the state wildlife management areas and national wildlife refuges in that part of the world we are bringing back the Louisiana black bear to the road to recovery."

Also in 2001, the federal government added 25,000 acres to Catahoula NWR near Jena. Flooded each winter to create waterfowl habitat, Catahoula Lake hosts hundreds of thousands of ducks. It also harbors one of the largest concentrations of canvasbacks in the nation.

Sportsmen paid for the great percentage of land purchases at Catahoula, Bayou Teche, Red River and the rest of the 94 million acres in the refuge system. Since 1934, sportsmen raised more than $500 million by buying annual federal duck stamps to fund land acquisition and other conservation enhancements. Hunting remains a major priority of the refuge system. About two million sportsmen hunted on refuge lands in 2000.

"Because so many refuges are paid for by

These spits of sand covered with mangroves and grasses serve as the winter home for numerous pelicans, terns and other shorebirds. Today, the 6,923-acre Breton NWR includes Breton Island and all of Chandeleur Islands, a remnant of the Mississippi River delta that flowed through St. Bernard Parish more than 2,000 years ago.

sportsmen's dollars, it's very important that we provide a place where people can hunt," Hamilton said. "Not many people can afford leases or have their own land for hunting."

Besides hunting, refuges provide opportunities for fishing, bird watching canoeing, hiking, camping and nature photography among other uses. Some refuges support interpretive nature centers where groups can learn about wildlife, biodiversity and ecosystems. In Louisiana alone, about 1.4 million people visit national wildlife refuges each year. Those visits contributed about $60 million to the state economy.

As the United States population grows, wilderness land becomes that much more precious and scarce. Louisiana alone loses more than 35 square miles of wetlands a year, or about two football fields every 30 minutes, to coastal erosion. About 80 percent of the wetlands that existed in the Mississippi River Valley when Columbus sailed from Spain no longer exist.

"In the future, these wildlife assets will become more critical as wildlife become even more dependent upon refuges and other wilderness areas," Hamilton said. "We are going to continue buying land and get conservation easements from landowners. We are going to work with private landowners to connect more pieces of wild land to other public lands such as state wildlife management areas, instead of having islands of wildlife diversity in a mosaic of conservation lands."

Like many previously endangered animals, some refuges themselves now need help. Many refuge facilities suffer from years of neglect and low maintenance budgets. Many facilities need repairs or outright replacement. More money in the future might go toward preserving the preserves.

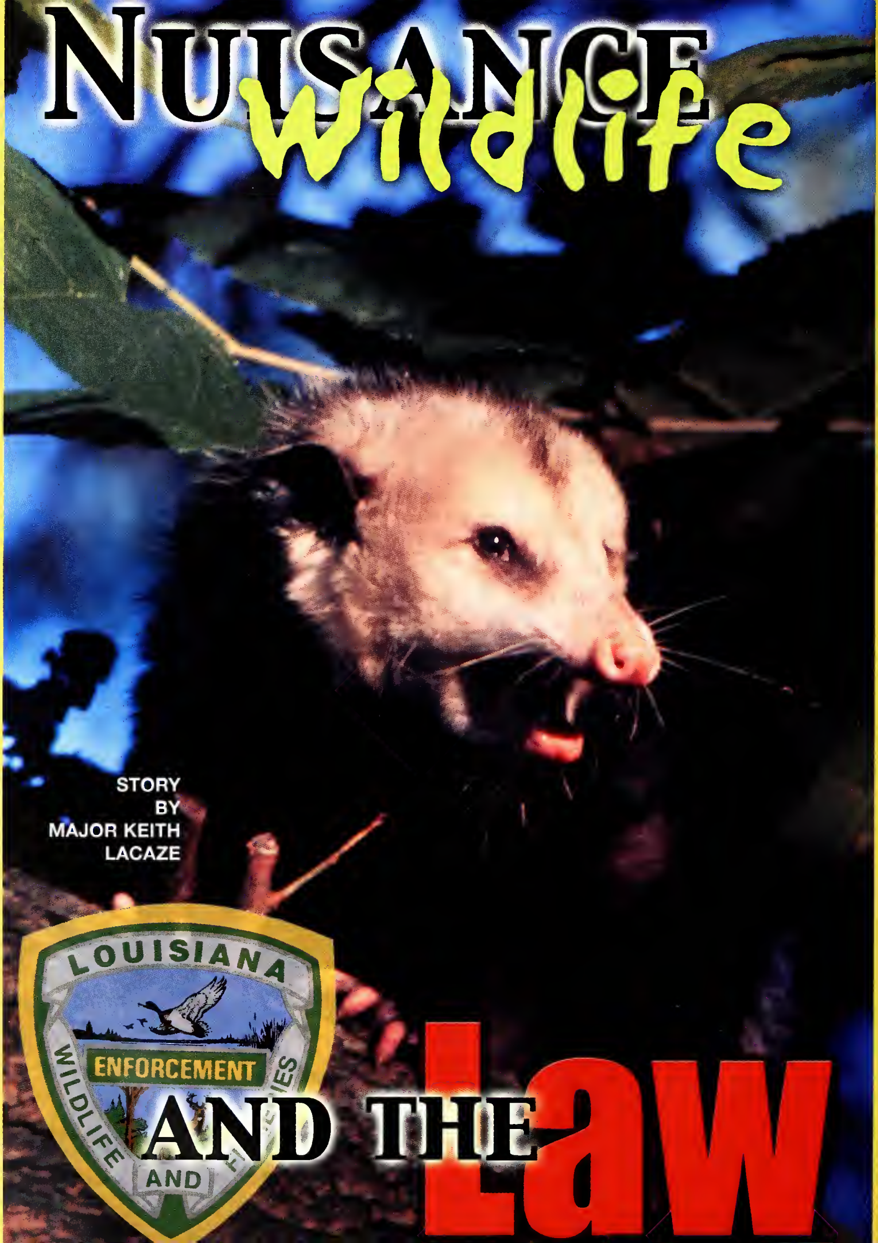
"The emphasis for the next five to 10 years will be in shoring up the facilities and making them each a world class operation," Hamilton said. "We plan to put more biologists on the ground and hire more interpreters to interact with the public. Land acquisition will be more strategically focused to connect existing lands into larger properties. I'm excited about the future. We look at Louisiana as the sportsmen's paradise and want to be more a part of it in the future."

While many accomplishments punctuate the 100-year history of the National Wildlife Refuge System, much work remains on the table. Precious few wilderness acres remain. In the next 100 years, will future presidents follow the legacy of Theodore Roosevelt or allow more wildlife species to go the way of the passenger pigeon?

John N. Felsher is the outdoors editor for American Press, in Lake Charles, LA, an award-winning free-lance outdoor writer, and long-standing member of Louisiana's Outdoor Writers Association.

NUISANCE Wildlife AND THE Law

STORY
BY
MAJOR KEITH
LACAZE



LOUISIANA
ENFORCEMENT
WILDLIFE AND FISHERIES

Everyone enjoys wildlife and many home owners place feeders and plant natural foods to attract wild birds and animals. People leaving suburbs and towns and moving to dream homes in rural or wooded areas often view the close proximity to wildlife as an added benefit. But several hundred dollars worth of flowers and ornamental plants eaten overnight or young trees ridden to the ground and stripped of fruit by deer, squirrels or raccoons can quickly erode benevolent attitudes toward these wild creatures. Foraging armadillos destroying flower beds and squirrels, bats and raccoons taking up residence in attics and outbuildings are not very popular with folks either.

Farmers already walking a thin line of profit margin often find themselves reaching for the ulcer medicine after discovering nipped seedlings, raided cornfields or irrigation levees rooted or burrowed by marauding deer, hogs, raccoons or nutria. Catfish and crawfish farmers lose revenue to birds and other predators that find fish fingerlings and crawfish a tasty, easy meal.

Conflicts between people and wildlife are increasing due to a number of factors. Diminishing wildlife habitat and increasing human populations in rural areas have contributed to the problem. Higher wildlife numbers in some areas result from effective wildlife protection and sound management practices. Hunting leases providing food and habitat enhancement, along with conservative harvest, produce abundant wildlife. The decline of fur trapping leaves record numbers of coyotes, bobcat, raccoon, nutria and other furbearers unchecked and subject only to other predators or disease as a means of population control.

Nuisance wildlife is a growing problem. Many people don't know how to deal with it and have no idea what, if any, legal means of dealing with the problem are available to them. It can also be a dilemma for wildlife enforcement officers who must enforce seasons, bag limits and methods of take in situations where home or property owners, farmers and land managers are struggling to protect valuable assets.

The Louisiana Department of Wildlife and Fisheries has established regulations and worked closely with other state and federal agencies to address nuisance wildlife. We will explore some of the problems and how they may be handled through legal and specially permitted methods.

Common home owner wildlife problems such as snakes in the house, squirrels or bats in the attic, raccoons in the outbuilding and armadillos rooting up the yard may be handled in a couple of ways. LDWF wildlife biologists provide technical assistance and make recommendations for resolving human/animal conflicts, often by non-lethal means. Armadillos, squirrels, raccoons and other animals protected by wildlife regulations may be taken within legal hunting seasons and hours, by legal methods and with required licenses as described in the applicable hunting regulations.

Homeowners may also hire a nuisance wildlife control (NWC) operator for help with such problems. NWC operators are specially qualified individuals who are permitted by the Louisiana Department of Wildlife and Fisheries to engage in nuisance wildlife control practices. NWC operators remove problem animals for a fee. Currently there are about 26 NWC operators statewide. Your nearest LDWF Region Office will have phone numbers for NWC operators in your area.

Louisiana's growing deer herd sometimes presents problems for home owners, gardeners and farmers. While the Department does not allow or permit the killing of deer except by lawful hunting during the open deer season, steps have been taken to deal with nuisance deer problems. Many helpful tips and other information about how to handle nuisance deer and crop depredation problems are available in LDWF's Nuisance Deer Management Program.

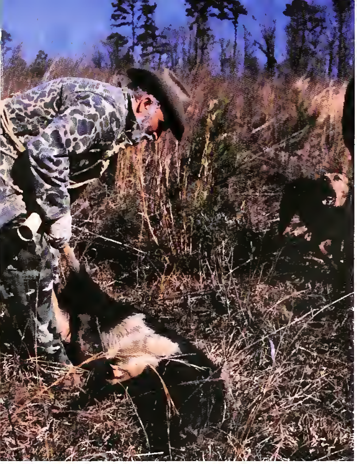
A Landowner Antlerless Deer Tag Program similar to the Deer Management Assistance Program (DMAP) is also available upon application of landowners or lessees. It applies to landowners

LDWF File Photo

The hunting season for crows is September 1 to January 2 with no limit; however, crows, blackbirds, cowbirds and grackles may be taken year round during legal shooting hours if they pose a threat to agriculture, wildlife or health.

Contact your nearest LDWF Regional Office for technical assistance and information regarding common homeowner nuisance wildlife problems.

LDWF File Photo



LDWF File Photo

Hunters using dogs trained to locate and "bay" wild hogs are very effective at ridding an area of pests.

Killing wildlife should only be a final solution after all other remedies have failed or provided insufficient relief.

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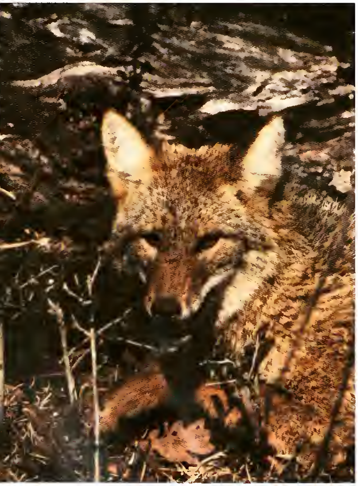


and lessees with less than 500 acres who have verified deer depredation problems and have met all of the requirements of LDWF as stated in the Nuisance Deer Management Program and who are dependent upon a commercial crop as a major source of income. Landowners with less than 500 acres and more than 40 acres enrolled in the Louisiana Forest Stewardship Program and who have a written wildlife management plan on file with LDWF are also eligible to participate in this program. Both NDMP and LADTP provide participants with antlerless deer tags which allow the harvest of antlerless deer throughout the hunting season on designated property. Thus lawful hunting is used as a means to remedy the situation, with hunters and landowners both reaping the benefits.

Farmers and others experiencing depredation by feral hogs may use trapping and hunting year round as a means of dealing with the problem. Feral hogs may be taken, where legal, by licensed hunters during daylight shooting hours, year round. LDWF is currently developing a list of hog hunters willing to assists farmers by "dogging" feral hogs off their land. Hunter names and phone numbers will be available to farmers seeking help. Any agreements and arrangements beyond that will be between the hunter and farmer.

Nutria, one of the state's most prolific pests, may be taken during a very liberal recreational season from September 1 to February 28 during legal daylight shooting hours without limit. A basic hunting license is all that is required unless one wishes to pelt or sell the carcasses during the open trapping season, in which case a trapping license is needed. In addition, landowners may remove beaver and nutria causing damage to their property without a special permit. Water-set traps and firearms may be used to remove beaver and nutria may be removed by any means except night hunting.

With a special permit issued by LDWF, beavers may be taken at night for a period of three consecutive evenings from the effective date of the permit. Squirrels found destroying commercial crops of pecans may be taken year-round by a special permit issued by LDWF. This permit is valid for 30 days from the date of issuance. Contact your nearest regional office for details about these special permits.

Catfish and crawfish farmers experiencing losses from marauding birds, such as cormorants, may also obtain special permits through the U. S. Department of Agriculture's Wildlife Services Section. The permits allow for the taking of certain species of birds known to inflict heavy damage on "aquaculture" operations.

While kill permits are available as a means to deal with some nuisance wildlife, killing wildlife should only be a final solution after all other remedies have failed or provided insufficient relief. In many cases preventive measures such as electric fencing, eliminating food sources, dogs and/or lawful hunting offer less expensive and far more effective methods. Always contact your local wildlife enforcement agent or the nearest regional office to inquire about laws and regulations before taking any nuisance wildlife control measures.

Major Keith Lacaze is the Law Lines columnist for Louisiana Conservationist and a Public Information Officer with the Law Enforcement Division of the Louisiana Department of Wildlife and Fisheries.

Blast *and* Cast *at Pass-A-Loutre*

STORY BY PETE COOPER JR.

As is often the case, the teal hunt ended almost before it began, with the little ducks flocking into the decoys like there would be no tomorrow. By eight the five of us had returned to my friend's skiff, loaded our pirogues, decoys, birds, and gear into it, and were headed back to Venice, quite pleased with the results of the first part of our day in the lower Mississippi River Delta.

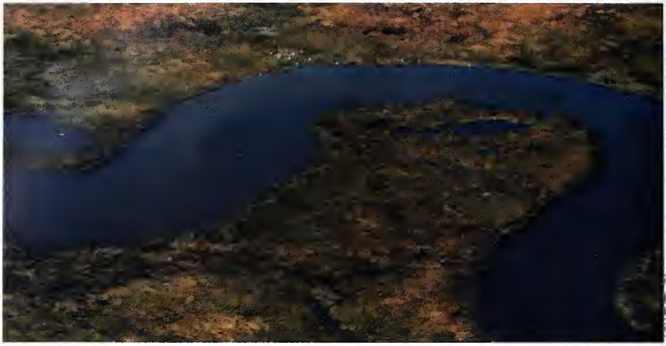
Back in Venice we unloaded the skiff and swapped camouflage hunting attire for much cooler fishing wear. Then having loaded rods and tackle boxes aboard, we took off down the river again. An hour or so later we anchored near a washout in the bank of a canal off Southeast Pass, and in the short while we fished before we unanimously voted to return to Venice for a nap, we amassed a nice mess of specks, reds, and a flounder.

While opportunities to both hunt and fish on the same day do exist across the coast, most involve relatively expensive guided trips. The Pass-A-Loutre Wildlife Management Area is a noteworthy exception. During September it normally holds large numbers of blue-wing teal, and the low river which is typical of the month allows the small passes and canals which lace the area to become quite clear. By the opening of the teal season these waterways have normally become loaded with a variety of popular saltwater species and can provide some of the best fishing imaginable. Before we begin casting, though, some thoughts on blasting are in order.

A scouting run prior to the hunt is a common practice and is highly advisable, especially if you haven't been in the area for a while. Some really hardy outdoor types choose to overnight in the WMA between the scouting run and the hunt, though most folks make two separate trips, spending the night in the comfort of either a motel or home. Whatever the case, areas with the best potential seem to be in the northernmost and westernmost parts of the WMA.

There are two important things to consider while scouting. If a spot looks promising and is easy to access, you will probably have competition there, especially during weekends. Explore, and when you reach a point which your big boat won't pass, anchor it and investigate further by pirogue. Sure, that's additional effort, but it could pay big dividends.

The transformation which the water in the Pass-A-Loutre WMA undergoes in late summer is truly amazing - from a sea of liquid mud to clarity rivaling any lake in the state.



LDWF File Photo

The second consideration is the tide. A duck potato flat may hold lots of teal during the low tide afternoon of your scouting run but be flooded beyond the birds' ability to feed the next morning. On the other hand, a widgeon grass-filled pond may look ideal on the high tide but be completely choked with matted vegetation on the low end. So what's the solution? Scout the morning before the hunt, then fish that afternoon. That way there will be no surprises the next day, and you can get a double dose of the fishing action.

One final note on teal hunting. Small ponds are usually much better than bigger ones. Fact is, some of my best hunts have taken place where a thick stand of duck potato surrounded an area of much thinner growth. The size of that "opening"—you couldn't truly call it a pond—was perhaps one-eighth of an acre, but the teal loved it. Find a similar spot, scatter a dozen teal decoys, not mallard decoys, around it, and they will come.

And once you take your allotment of them, you can go fishing.

Usually mid September through mid-October is the prime fishing time at Pass-A-Loutre, but occasionally the water will remain clear much later. During the blast and cast season there are several productive patterns.

The first is working the tops of shoreline sandbars for redfish and the occasional flounder. Both banks along the upper end of South Pass, the east bank of Pass-A-Loutre itself from the head of Dennis Pass roughly up to Swanson's cut, and both banks along the upper reaches of Southeast Pass are worth prospecting. In periods of good sunlight and light breezes sight-fishing is possible, though blindly working spinnerbaits—or better yet small surface lures—alongside the shoreline grasses and through beds of submergent vegetation will usually account for the most fish.

Another pattern, deep-jigging, can also lead to nice catches of reds and flounders, but it is the premier technique for specks. The best waters are the canals and small bayous that criss-cross the area, some of note being those that lead off South Pass. The fish are often found near intersections, forks, and washouts in the shorelines. A one-quarter or three-eighths ounce jig cast up current, allowed to sink to the bottom, and then retrieved slowly with short pumps usually produces the best action. Adding a small shrimp to the jig might be considered and may actually increase your catch of reds and flounders, but it will assuredly increase your tally of small stingrays which also abound in the area.

While surface irregularities in these waters can be good indications that specks might be nearby, another clue is benthic. At some point near their mouths the bottom of some of the canals—notably those leading off South Pass—sharply rises a considerable distance, then levels off. The area just downstream of the lip of that deep flat is protected somewhat from the main force of the current and can hold a lot of specks waiting for prey to be swept by them overhead. Using your depth recorder to locate this structure, set your anchor right at the edge of the lip, allow the boat to drift back 40 to 50 feet, and make your casts back toward the lip.

A word of caution about the canals leading off South Pass. Some were once isolated from the pass by rock bulkheads. Those have settled beneath the water's surface and cannot be seen, but they are still shallow enough to total a lower unit. Also, the grass and canes at the heads of those canals have subsided, leaving no indication of the location of the bulkhead - which may be some distance out into the pass. It is best to enter these canals right alongside their present banks and at dead idle with the outboard trimmed well up, then immediately get out into the middle of them.

While much of the best fishing now takes place in interior areas of the WMA, the edges of Blind Bay and Redfish Bay, and the bayous and canals leading into them, can produce memorable action. The specks will normally be found deep near the mouths of those bayous and canals while reds and flounders frequent the shoreline flats, one of which in Redfish Bay produced my largest flounder during a recent teal season. Admittedly, these waters are a long way from Venice.

If you decide to make a combination hunting/fishing day-trip to the WMA, and your party is considerably smaller than ours was on the day related at the beginning of this article, you can eliminate the interim run to Venice by chaining your pirogues to a tree and returning for them after fishing. Whatever your decision about that, a combo day will demand a WMA permit along with the appropriate hunting and fishing licenses and stamps; should you choose to only fish, the WMA permit is not necessary. The daily self-clearing permit which is now required to access many WMA's is not needed here unless you choose to spend the night on site. This permit is available at the headquarters building on Dennis Pass.

During September the Pass-A-Loutre Wildlife Management Area offers an opportunity that simply can't be beat if you like to hunt ducks and fish for saltwater beasties. That all comes about thanks to good management of the area by the Department of Wildlife and Fisheries, the dry season up north which allows the river to drop and clear, and the resulting saltwater influx—a combination that residents of other states have wistfully related they sure wished they had back home. Take advantage of it and you'll see why.

Pete Cooper Jr. is a freelance outdoor writer and a member of the Outdoor Writers Association of America and Louisiana Outdoor Writers Association.

A "deep-jigging" pattern can produce nice catches.

Photo by Pete Cooper Jr.

Uncovering the American Alligator

STORY BY RUTH M. ELSEY

PHOTOS BY VICTOR MONSOUR

The Louisiana Department of Wildlife and Fisheries is responsible for managing our state's wildlife resources, including the American alligator, *Alligator mississippiensis*. Many Louisianians are aware of the alligator harvest programs the Department regulates. Our state's landowners and licensed trappers and farmers may participate in harvests of wild alligators, alligator eggs, and occasional "nuisance" alligators. Often the financial income derived from these programs encourages landowners to maintain their wetlands and enhance their properties to maintain alligator habitat.

In addition to the alligator management program, the Department also has an active alligator research program. Early research conducted in the 1960s and 1970s focused on life history studies (food habits, breeding biology, nesting ecology, habitat preference, etc.) and led to the development of our annual fall harvest.

Some of the ongoing research studies pertain directly to the management programs, and play a role in providing data to help refine our management techniques used in the wild harvest and in the egg ranching program. Other projects are basic science endeavors to help us learn more about the biology and physiology of the alligator. Often our Department's biologists collaborate with researchers from various universities, whose expertise can help answer questions of mutual interest.

Much of the early breeding biology research focused on nesting ecology, and our early physiological studies led to several publications on the reproductive cycle of the female alligator. It is generally known that female alligators become sexually mature when they are around six feet in length. In terms of development of the male alligator's onset of maturity, less was known. Larger male alligators are dominant and a social hierarchy suggests the largest males mate earlier each spring than subordinate males.

Our prior data showed male sex steroid levels (measurements of plasma testosterone) rose at the time of breeding (April and May) in adult alligators. However, we had little information as to whether the sex steroids are produced in smaller male alligators (those around four and five feet in length). Thus, it's unclear if these younger male alligators are capable of breeding activity, or if they contribute to population recruitment. We also don't know if very large male alligators ever stop breeding and become reproductively senescent (aged). We also had no blood samples from winter months from alligators of either sex, as our prior studies on reproduction focused on spring and summer collections, during the time of courtship and breeding. Also, alligators are less active in winter, making samples more difficult to obtain.

In late June 2000, we began a study to look into some of these questions in alligators of both sexes and of all sizes, from both the typical adult and the typical juvenile habitat. Several methods are used to catch alligators, depending on the size of the alligator. Small juvenile alligators (up to four or five feet in length) are caught from airboats in shallow marsh habitats. The smaller gators less than four feet can be caught by hand, but those over four feet are better caught by a small self-locking cable snare. Alligator eyeshines are easily seen at night using "Q-Beam" spotlights and boats can approach close enough to catch the alligators. Larger alligators are generally in deep canals, and are caught from outboards, also at night.

Once an alligator is spotted, snared, hauled in the boat, and jaws secured by thick rubber bands, the data collection begins. A 10 milliliter blood sample is immediately taken; the alligator is measured, the sex is recorded, a notch is cut out of a tail scute for permanent marking, and two numbered identification tags are placed in the webbing between the alligator's rear toes. The alligator is then released at the capture site.

The entire process takes just a few minutes, and 20-30 alligators can be caught in a few hours time if the weather cooperates. The alligators are easier to catch if it's a dark night with no breeze, low tide, and warm. Factors working against a successful night are a full moon, windy conditions, high tide, and cool temperatures.

Staff members on the "alligator crew" generally spend about three nights a month catching alligators for this and other projects. Attempts are made to ensure alligators of both sexes and as wide a range of sizes are caught, in both marsh and canal habitats. Gators caught have ranged from the prior year's hatchlings (less than a foot long) up to 11 feet 10 inches in length.

The results from this project are preliminary, but thus far are very interesting. Unexpectedly, even the smallest sized male alligators (two to three feet in length) had measurable plasma testosterone. Also, very surprisingly, we found a seasonal pattern of higher testosterone levels in spring months in all size categories, even in the smallest alligators. Naturally, plasma testosterone levels increased as the average size of the alligator increased. Next we plan to measure estradiol (the female sex steroid) levels in the females alligators caught thus far. This work is being done in collaboration with Dr. Val Lance of the Endocrinology Department of the world renowned San Diego Zoological Society.

In addition to providing new data as to the biology of the alligator, this project has provided a unique learning opportunity for numerous student employees of the Department, as well as volunteer interns and graduate students who have assisted with the field work while at Rockefeller Wildlife Refuge. Students who participate learn how to safely handle alligators, collect reliable field data, learn about the marsh environment, and become familiar with how biologists collect data and learn how it can be used in management decisions.

Samples from this project are being shared with a graduate student from Texas A&M University. Jared Crawford is a Louisiana native, working in Dr. Duncan McKenzie's lab at Texas A&M to evaluate thyroid hormone levels as his Master's degree thesis work.

When we are attempting to determine

LDWF employees stake alligator nests with PVC poles after locating them by helicopter.

Close up of an alligator before securing its jaws with rubber bands.

reproductive status in female alligators, sometimes we need to conduct necropsies to examine the ovaries and oviducts, to determine if a female was mature and capable of producing a clutch of eggs. We recently began a study with Dr. Dave Rostal of Georgia Southern University to see if ultrasound images could be used to see ovarian development in live alligators. Initially we thought the skin on the belly of the alligator (being thicker than human skin) would cause interference and make the images unclear. However, placing the ultrasound probe on the thinner flank of the alligator rapidly revealed a very clear image of the ovaries and in some cases, the oviduct. Individual ova could be measured and counted, giving an immediate index of whether the alligator would produce a nest that year. Some alligators caught in early June even had shelled eggs readily visible in the oviduct. This non-invasive technology provides us accurate data on the reproductive status of the alligator, and the animal can be released unharmed, without the need to sacrifice the alligator for dissection.

Another ongoing project our Department is conducting involves using DNA technology to study paternity in alligators. Field observations previously showed large male alligators could breed with more than one female in "courting groups". However, we didn't know if female alligators mated with more than one male. To look into this, we caught female alligators while they were aggressively defending their nests, and collected a blood sample for DNA from the mother alligator. We then collected her eggs from the nest, incubated them at the Rockefeller laboratory incubators, hatched the eggs, and then obtained a blood sample from each hatchling. The DNA from these blood samples were analyzed by Dr. Travis Glenn and Dr. Lisa Davis at the University of South Carolina. They discovered that in seven of 22 clutches, more than one male alligator fathered the clutch. In one case, three males contributed to the clutch of eggs. This was the first time multiple paternity had been described in any crocodilian. In some cases a single male fathered two entire clutches which were near each other geographically. We are expanding the study of paternal relationships between nests found close to each other in the marsh.

Now we are continuing this study and trying to catch some of the same females again to see if they might have bred with the same male in subsequent years, suggesting pair bonds might exist. Many other scientists are very interested in this work, as there has long been a question as to whether alligators have sperm storage structures in the female reproductive tract or not.

In collaboration with Dr. Frank Seebacher of the University of Sydney in Australia, we are also studying temperature regulation in alligators of varying sizes, in both winter and summer. This will provide data on how alligators adapt to climactic changes and how various muscle enzyme levels change seasonally. Dr. Seebacher surgically implanted small data loggers in each alligator's peritoneal cavity, and the data loggers were programmed to measure the alligator's internal body temperature every 10 to 15 minutes. The data can explain some of the differences between alligators, which are subtropical, and crocodiles, which are tropical and cannot tolerate temperatures as cool as the winters in Louisiana.

Just this year we initiated a collaboration with Dr. Mark Merchant at McNeese State University, who is studying the antimicrobial properties of alligator blood. It is curious that alligators can eat carrion, sometimes live in shallow ponds with stagnant water, and often survive traumatic injuries from propellers, but rarely seem to develop illness or infections. Dr. Merchant is studying the immune system in alligators, and how this system functions. This work may help in the rare instances of disease in captive alligators, in terms of evaluating cause and treatment options.

Because alligators are such an ancient species, we often receive inquiries from university researchers and graduate students who are interested in paleontology and studies of extinct dinosaurs. Alligators have many unique anatomical features, some of which are more like birds, and some of which are more like turtles. This makes the alligator a particularly useful species for studies of evolution and development.

Alligators are also interesting in that they have temperature dependent sex determination. Thus, the temperature at which eggs are incubated determines what sex the hatchling will be. We put temperature recorders in alligators nests and left the eggs in the field to incubate beyond the temperature sensitive period for sex determination. Then, just before hatching, we collected the eggs and hatched them at our laboratory. Dr Jeff Lang of the University of North Dakota lent expertise in determining the sex of the hatchlings, which were then released back to the wild. Nearly 6,000 hatchlings were checked over a five year period, and over 70% were females. This makes sense, as low incubation temperatures produce females, higher temperatures produce males, and very high temperatures again produce females. Thus, it is difficult to produce lots of male hatchlings. This is very interesting, because when we catch juvenile and sub-adult alligators we usually find a male predominance. Thus, it may be that male juveniles survive better than females. New findings like these help us manage our wild resources, and are influential in decisions about our egg ranching and "release back to the wild" program.

LDWF biologists have conducted numerous studies directly related to our alligator egg "ranching" program to evaluate how well juvenile alligators released from farms fare when back in the wild. Alligator farmers must release a calculated portion of the eggs hatched back to the wild as juveniles before they are two years old. Studies have looked at food habits of the released alligators and found they soon learn to hunt for prey and feed normally after release back into the wild. Growth rates are being monitored, and the released alligators continue to grow at a rate equal to or better than wild alligators of the same size. We have documented numerous cases of farm-released alligators growing large enough to breed and successfully nest in the wild, thus contributing to further population recruitment. We also plan to look at dispersal of alligators after release, and see how they move from the release site.

Survival rates are being very closely watched as well, and when possible compared to similar sized and aged wild alligators. Alligator trappers often catch alligators in the September harvest that have the web tag (previously placed by LDWF employees) between it's toes, indicating it is either a "farm-released" alligator or one from one of the various research studies described above. Like duck bands, the records from the number on the web tag can help biologists determine how long the animal survived from the time it was initially marked. In September 2001, several alligators were caught that had been released from farms in 1991. Two of these were only 38 inches when released, and had grown to over 10 feet long when they were harvested in Plaquemines Parish. One alligator harvested in Tensas Parish was exactly 11 feet when caught on September 1, 2001, and had been released at 60 inches long in August 1991. Staff members from LSU's Department of Experimental Statistics are involved with this project and provide crucial advice on the complex statistical analysis of various data sets used in our management programs.

Once all the field data is collected, staff biologists spend time analyzing the data and drawing conclusions. Results are often summarized and a technical paper is written. This is then submitted to a scientific journal for publication, if acceptable to a review process by other scientists. In this manner, new research findings are disseminated and available to other investigators. The data may be presented at scientific meetings by staff members as well, which brings recognition of the Department's research programs to others in the same field or those working with other species of crocodilians.

Blood is drawn for DNA analysis and data is recorded from an adult female alligator caught on her nest.

Ruth M. Elsey is a Biologist Supervisor for LDWF's alligator management program.

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Plight of a Living Fossil

STORY AND PHOTOS BY SEAN RILEY

According to scientists, sturgeon have been present throughout the world for over 63 million years. These living fossils are thought to be among the oldest fish species alive today. One subspecies of the fish, the Gulf sturgeon (*Acipenser oxyrinchus desotoi*) makes its home in Louisiana waters. A number of developments in the past century have diminished Gulf sturgeon numbers to near-extinction, however. With greater national awareness of their plight, and with the help of agencies like the Louisiana Department of Wildlife and Fisheries and the U.S. Fish and Wildlife Service, Gulf sturgeon are battling to preserve their ancient way of life.

The Gulf Sturgeon, a subspecies of the Atlantic sturgeon, can be found in Louisiana waters around Lake Pontchartrain, the Pearl River and nearby Gulf of Mexico coastal areas. It is distinguished from the Atlantic coast subspecies by its longer head, pectoral fin and spleen. The fish has a long, nearly cylindrical-shaped body adorned with five distinguishing rows of bony plates called "scutes." It has a notably extended snout, with four barbels (whiskers) attached to a suction-type mouth located beneath the head. Adults range from six to eight feet in length, with adult females larger than males.

An "anadromous" fish, Gulf sturgeon migrate between saltwater feeding areas and freshwater spawning areas. They inhabit coastal rivers during the warmer months and winter in estuaries, bays and the nearshore Gulf of Mexico. Historically, Gulf sturgeon could be found from the Mississippi River to Tampa Bay. Its present range extends from Lake Pontchartrain and the Pearl River system in Louisiana and Mississippi east to the Suwannee River in Florida. Sporadic occurrences have been recorded as far west as the Rio Grande River, and as far east and south as Florida Bay.

Gulf sturgeon return to their river of birth to spawn in the spring, remaining for six to eight months in freshwater. Females lay eggs at sites over gravel, cobble, or limestone, which seem to be essential for the hatching of eggs and sheltering of the newly-hatched larvae. It is believed that juvenile sturgeon disperse widely in order to maximize scarce food resources, remaining in freshwater through early February to feed on aquatic invertebrates and insects, detritus, and bivalve molluscs.

Subadults and adults, however, are believed to fast during their stay in freshwater. When water temperatures cool during winter months, Gulf sturgeon return to estuarine areas and the Gulf of Mexico, where they resume feeding on bottom-dwelling invertebrates such as shrimp, molluscs and crustaceans. It is estimated that adult and subadults lose up to 30 percent of their total body weight while in freshwater before compensating during winter feeding.

Sonic tags attached to Gulf sturgeon, one of four tagging systems employed by LDWF biologists, allow for tracking and updating the fish and its vital statistics in fresh and saltwater environments.

There are believed to be 24 species and five subspecies of sturgeon in existence today. Individuals of several species have exceeded 100-years of age, and over a ton in weight. Gulf sturgeon have been known to exceed 40 years in age. Worldwide, populations of many sturgeon species are in trouble. Habitat alterations and overfishing have both contributed to population declines. The fish have been hunted for thousands of years for their highly delectable flesh and their swim bladders, which are used for isinglass—a gelatin used in food products and glues. Most significantly, sturgeon provide the highest grades of caviar.

Gulf sturgeon once existed in Louisiana in large numbers. Heavy commercial fishing of the subspecies in the 19th and 20th centuries, though, dealt a heavy blow to their population. The construction of dams and other water control structures has further stressed sturgeon populations. These structures have severely restricted sturgeon access to traditional migration routes and spawning areas and have lead to a critical loss of habitat. Other habitat alterations, such as channel maintenance and pollution, may also have affected the species.

Gulf sturgeon are otherwise physically tough and adaptable, having changed little since their inception thousands of years ago. This characteristic, however, has also become one of the primary reasons for their declining numbers. Gulf sturgeon are slow to sexually mature. The age of sexual maturity for females ranges from eight to 17 years, and for males from seven to 21 years; therefore, the death of a single egg-producing female can have significant consequences for the entire Gulf sturgeon population.

In 1990, the Louisiana Department of Wildlife and Fisheries initiated a survey of Gulf sturgeon in Louisiana, just as the U.S. Fish and Wildlife Service was considering its listing under the Endangered Species Act. In 1991, the Gulf sturgeon was formally listed as a threatened species, one category away from endangered status. A special rule was included in the Act to allow the take of Gulf sturgeon for educational and scientific purposes, the enhancement of propagation or survival of the species, zoological exhibition, and other conservation purposes in accordance with applicable state fish and wildlife conservation laws.

The Department followed up the 1990 project with a much bigger study lasting from 1992 to 1996. LDWF biologists began tagging fish with radio tags to establish population estimates and determine sturgeon movement in freshwater. At that time the Gulf sturgeon population in Louisiana was found to number approximately 300, made up primarily of juveniles.

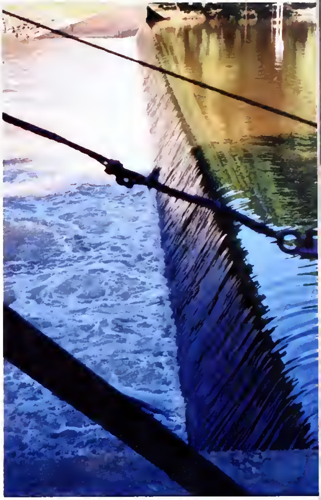
An additional one-year study followed in 2000, funded by the Shell Marine Habitat Program. The Shell Marine Habitat Program is a special program of the National Fish and Wildlife Foundation in partnership with the Shell Oil Company Foundation. LDWF continued the process of monitoring and recapturing Gulf sturgeon in Louisiana, using newly employed sonic tags to track the fish. Sonic tags, unlike radio tags, have the capability of tracking sturgeon in saltwater areas in addition to freshwater. Most importantly, however, the new sonic tagging system allowed Department biologists to track fish into their winter habitat, which included the barrier islands of Mississippi Sound.

The United States Department of Interior, through the U.S. Fish and Wildlife Service, and with coordination from the National Marine Fisheries Service, proposed to designate critical habitat for the Gulf sturgeon in May, 2002, based in part on LDWF data. Critical habitat identifies specific areas that are essential to the conservation of a listed species, and that may require special management considerations or protection during federally authorized projects. The proposition encompassed 14 geographical areas among the Gulf of Mexico rivers and tributaries. Among those designated were the Pearl River and Lake Pontchartrain areas in Louisiana.

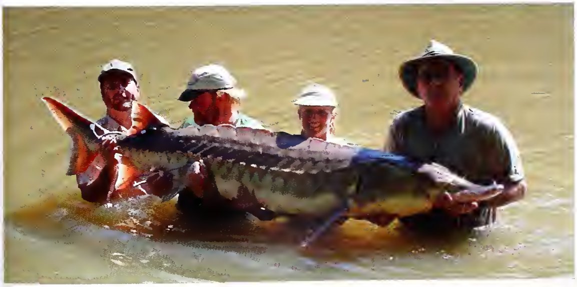
LDWF continues to monitor and tag Gulf sturgeon in state waterways in an effort to further refine understanding of spawning habitat use. Department biologists are also gathering data on additional areas of winter habitat along the Chandeleur and Breton barrier islands of Louisiana.

As a result of improved management, the Gulf sturgeon's downward population spiral seems to be slowly reversing itself in Louisiana. The latest figures compiled by Department biologists show the fish to number approximately 500. Further research will help define management practices necessary to ensure that this living fossil remains with us for centuries to come.

Sean Riley is a Louisiana Conservationist staff writer and LDWF Public Information Officer.



Dams, like this one constructed by the Army Corps of Engineers on Bogue Chitto River, have obstructed traditional Gulf sturgeon spawning routes.



Adult Gulf sturgeon range from six to eight feet in length. The Gulf sturgeon in this photo was caught by (from left) Jeff Thompson, Brian McNamara, Elizabeth Rabalais and Howard Rogillio of LDWF. It measured seven-and-a-half feet in length and weighed 250 pounds.

Species Profile

Blue-winged Teal

The blue-winged teal (*Anas discors*), also known as the August teal, blue-wing or summer teal, is the earliest duck to appear in Louisiana as part of the southward migration. Most abundant in early autumn, and again in spring, by the time other ducks pile into Louisiana marshes the majority of blue-winged teal has moved southward.

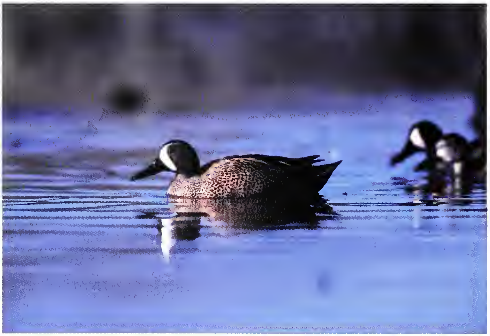


Photo by Joe Mac Hudspeth, Jr.

The blue-winged teal is a very popular bird among waterfowlers, and a special nine to 16-day hunting season has been structured around the early migration pattern of this species. Most of the blue-winged teal have migrated to points south by the November opening of the regular duck season.

At 14 to 16 inches long and with a wingspan of 24 to 31 inches, the blue-winged teal is one of the smallest ducks. The breeding plumage of the male includes a dull, spotted pink-brown body color with a white crescent on the face just in front of the eyes. There is a large blue patch on each forewing, a white patch on its flank, and it has a black tail.

Like most duck species in the Northern Hemisphere, when the breeding efforts of the male blue-winged teal are complete they molt from their brightly colored plumage to a dull, "eclipse" plumage. This eclipse plumage, which begins in July, renders the male similar in appearance to the mottled brown females. Since the eclipse plumage becomes complete by August, most hunters in September will recognize the blue-winged teal in this stage, with the distinguishing white facial crescent faded or missing entirely.

The blue-winged teal is considered a "dabbling duck"—ducks which feed near the surface of water—because of its feeding style. Nearly 70 percent of the blue-winged teal's diet consists of plant foods such as sedge seeds, grasses and weeds. It also feeds on duckweed leaves, algae, mollusks and crustaceans.

The blue-winged teal is categorized as a "blue winged" duck because of its blue upper-wing markings, a designation shared by its close relative, the northern shoveler—distinguishable by its unique profile. These blue-winged ducks have evolved a marked "hostile pumping" display. The head, with crown feathers depressed and bill slightly elevated, is repeatedly raised high while giving calls out of phase with the pumping motion and is used in courtship displays.

Wildlife
MANAGEMENT AREA

LAKE RAMSAY SAVANNAH

In 1992 the Louisiana Department of Wildlife and Fisheries acquired 796 acres of threatened, high-quality longleaf pine flat wood savannah and accompanying unique, indigenous species. Known as Lake Ramsay Savannah WMA, the primary management objective of the area is to restore, conserve and perpetuate all natural habitats and species native to the area.

Photo by Sean Riley

This holistic management direction of the WMA serves to conserve threatened and irreplaceable natural habitats and the species they support; ensure long-term ecosystem integrity; and provide excellent research, educational and recreational opportunities—a secondary accommodation of the area.

The savannah area near Lake Ramsay is one of the most significant longleaf pine flatwood savannahs remaining in eastern Louisiana. The area supports longleaf pine of many age classes, some of which exceed 100 years of age. It also supports populations of numerous rare plant species, has been frequently burned, is fairly sizeable, and has rich and generally continuous native ground cover.

Longleaf pine flatwood savannahs, characterized by a sparse longleaf pine overstory and a tremendous variety of herbaceous plants in the ground cover, are special natural wetlands indigenous to the coastal plain of the southeastern United States. Less than 10 percent of these intact savannahs remain in southeast Louisiana. The open character of this habitat in pre-settlement times was mainly due to frequent lightning-induced surface fires that prevented invasion by other woody plants. The habitat evolved over millennia with fire, which it needs for perpetuation—prescription of which will be a major focus of management at the WMA. High soil moisture status and frequent fire are necessary for maintenance of rich, viable pine flatwood savannahs.

Lake Ramsay Savannah WMA supports a variety of additional natural plant communities. Bayhead forests and depressions, hardwood slope forest, small river flood plain forest, mixed hardwood-loblolly pine forest, and upland sandy stream are also features of the WMA. The broad diversity of habitat types sustains a large number of animal and plant species native to the area.

Hiking, hunting, fishing, wildlife viewing, photography, educational, and research activities are allowed on the area. Public usage of the WMA is by walk-in only; however, educational institutions and groups may use the area for environmental study and education purposes by coordination with the Louisiana Department of Wildlife and Fisheries. Trapping is allowed by permit only and specific hunting regulations for the area are set annually prior to the opening of hunting season. Camping is not allowed on the area.

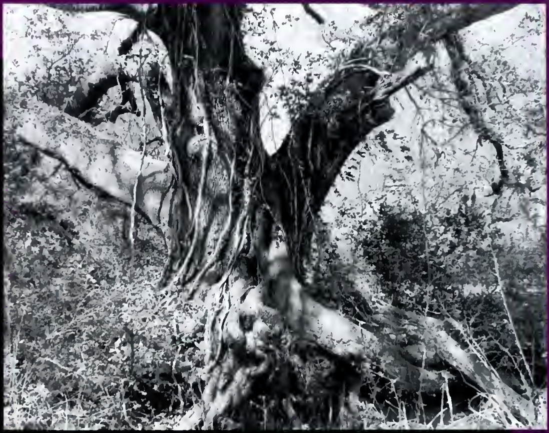
Lake Ramsay Savannah WMA is located in southwestern St. Tammany Parish, about seven miles northwest of Covington, and is accessible from Lake Ramsay Road, west off Highway 25.

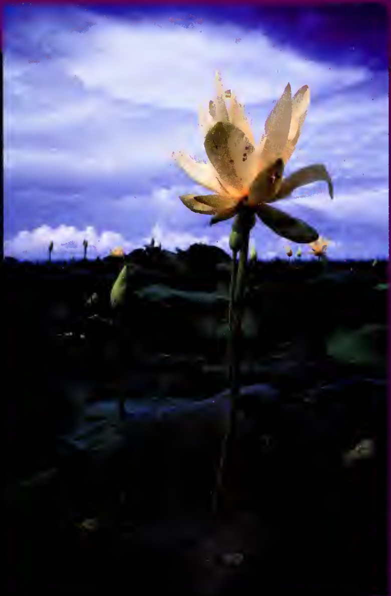
Photography Showcase

Louisiana Species: American Alligator
Photo by
Angelle Broussard
New Iberia

Natural Habitat: Old Pier
Photo by
Ron Johnson
Vinton

Natural Habitat: Live Oak Tree
Photo by Margaret A. Langlinais Broussard





Natural Habitat: American Lotus
Photo by Brett L. Henry New Orleans

CONSERVATION *notes*

PILOT AND ENFORCEMENT AGENT RECOGNIZED BY COMMISSION

The Louisiana Wildlife and Fisheries Commission recognized the outstanding work of two employees from the Louisiana Department of Wildlife and Fisheries. Wildlife Enforcement Lt. Brian Clark and Pilot Gene Rackle were presented with awards for lifesaving and excellent work, stemming from a dramatic rescue on January 8. Lt. Colonel Charlie Clark presented the awards to the agent and pilot after recounting the events that led to the rescue of Sammy F. Adams of Slidell.

Adams, 75, was rescued in the Stump Lagoon area of the Biloxi Wildlife Management Area after his boat ran aground. Adams attempted to pull his boat out on his own, but quickly became mired in mud up to his waist.

The LDWF New Orleans office was contacted by the marina when Adams failed to return at the designated time. Lt. Brian Clark responded to the call with the assistance of Pilot Gene Rackle, who was off-duty at the time. The pair flew into the WMA and located the trapped boater. Low tides prevented them from being able to reach him with the plane, but a rescue boat was able to reach the scene with directions from Clark and Rackle. Adams was eventually tied to the boat and pulled out of the mud. Adams, suffering from advanced effects of hypothermia as a result of the five-hour ordeal, was transported back to the marina and received medical treatment. The quick response from Lt. Clark and Pilot Rackle prevented the situation from being more tragic.

NO SNAKEHEAD FISH IN LOUISIANA (YET)

With recent national attention on the discovery of snakehead fish in Maryland waters, a number of fishermen have called LDWF Inland fisheries biologists with reports of unusual fish. So far, none have been found to be this invasive species. Two reports turned out to be bowfin (choupique), another was probably an American eel, and one was not even a fish; it was an amphiuma, an aquatic salamander with a snake-like shape.

Snakeheads include some 28 species of air-and-water-breathing fish native to Asia and Africa. Several species are popular with aquarists, and some are grown for food. The hardiness and predatory nature of these fish have caused concern for their probable impacts to native species if populations become established in the United States. They have been found in the natural waters of eight states, with some occurrences of reproducing populations.

Introduction of non-native species to our waters has been detrimental to existing fish populations, and is illegal. Even if invasive species do not actually devour existing fish, they can displace local species' positions in the ecosystem. Such is undoubtedly the case with the European carp and the Asian (grass, silver, and bighead) carps that are now common in many Louisiana waters.

Louisianians are reminded to never release fish from aquaria into natural waters or to move fish between natural water systems. Pond stockings should be made with approved species from permitted producers (LDWF will supply a producer list on request). If an unusual fish is caught, please take it to the nearest LDWF office for identification by a fisheries biologist. For more information, contact Dr. Glenn Thomas at 225-765-2641.

RODEMACHER LAKE GETS ARTIFICIAL REEF

The Louisiana Department of Wildlife and Fisheries personnel from Inland Fisheries Districts II and III recently submerged the first part of an artificial reef complex in Rodemacher Lake, near Boyce. Employees from Cleco's Rodemacher Power Station constructed the reef components from materials donated by the Cargill Animal Nutrition, Inc. Nutrena Feed Mill in Lecompte.

LDWF designated Rodemacher Lake as a Quality Lake in 1991 and began to stock the waterbody with Florida bass fingerlings. However, the lake has recently suffered from a lack of cover. Due to the success of similar, though smaller initiatives in other lakes around the state, LDWF and its partners began implementing the Rodemacher reef project.

The recently-completed reef, one of several in a series which is planned to cover five to six acres of Rodemacher Lake bottom, was constructed of 100 separate elements meant to simulate submerged trees. Each "tree" is made up of 15 by 24 inch feed pallets positioned several inches apart along PVC pipe anchored in concrete. All of the materials were approved for use on the reef by the Environmental Protection Agency and Louisiana Department of Environmental Quality.

The "trees" were dropped in groups scattered around a central buoy. The buoy is marked with a sign indicating the site is an artificial reef. The reef sits in 15 to 18 feet of water, and each of the structures is about five feet tall.

Department personnel expect the artificial reefs to attract crappie, bluegill and bass among other fish and aquatic life.

CHEVRONTEXACO PRESENTS DONATION TO ARTIFICIAL REEF PROGRAM

A representative of ChevronTexaco was on hand at the August 1 meeting of the Louisiana Wildlife and

Fisheries Commission to show the company's support and evidence their cooperation with the Louisiana Artificial Reef Program. Jeff Theriot of ChevronTexaco presented a check in the amount of $465,000 to Rick Kasprzak, Artificial Reef Coordinator for the Louisiana Department of Wildlife and Fisheries.

The donation was a result of the cooperative work that has been going on in the Gulf of Mexico between the Artificial Reef Program and petroleum companies such as ChevronTexaco. Specifically, an obsolete ChevronTexaco oil rig was donated to the program. The 2,274 ton rig was severed 15 feet below the mudline, towed 22 miles to a location 90 miles south of New Orleans and sunk. The site now has the potential to become a prime fishing spot for Louisiana anglers.

In addition to the donation of the apparatus, ChevronTexaco pledged one-half of the savings made possible by their participation. That pledge was realized with the check presented at the meeting. Theriot commented on how the program benefits everyone involved. "It's a win-win situation. ChevronTexaco saves money on decommissioning costs, the state provides fishing opportunities for its residents, but more importantly, it maintains the fishery habitat."

LDWF, OTHER AGENCIES IMPROVE FISHING SUCCESS AT CHICOT LAKE PIER

On May 29, Louisiana Department of Wildlife and Fisheries Inland Fisheries Division personnel laid a bed of sand and gravel near the 400-foot fishing pier on the south end of Chicot Lake. The lake is located within Chicot State Park, just north of Ville Platte. LDWF's efforts are expected to concentrate spawning of bluegill, crappie, bass and other fish near the pier. A total of 20 yards of sand and 14 yards of pea gravel were unloaded near the pier. The materials were purchased by Louisiana State Parks. David Byrd, of the U.S. Forestry Service Alexandria office, supplied a barge and his assistance.

On June 13, LDWF constructed artificial reefs using plastic feed pallets donated by Cargill, Nutrena Feeds Plant in Lecompte, and placed them along the fishing pier. To submerge the reefs, Barry Concrete in Opelousas supplied concrete free of charge. The structures should improve habitat and serve as fish attractors.

Assisting in the artificial reef construction and placement was the Boy Scout Troop 36 in Evangeline parish. Lastrapes Garden Center in Opelousas also donated materials.

SOME BIRD HUNTERS CONCERNED ABOUT WEST NILE VIRUS

The West Nile virus outbreak in Louisiana has raised questions regarding the handling and consumption of doves and other game birds. Birds are the primary reservoir for West Nile virus. Mosquitoes transmit the virus between birds, and from birds to people. To date, the disease ha been found primarily in crows and blue jays, although other birds and mammals are also affected. Less than one percent of the humans who become infected exhibit symptoms of the disease.

Dove season opens September 7 and thousands of hunters will be handling, dressing and cooking the doves they bag. West Nile virus is not common among mourning doves, so the likelihood of encountering a mourning dove infected with West Nile virus is very low, particularly if the bird appears healthy and is a strong flier. Mosquitoes are the only known means of transmission of the West Nile virus and direct transmission from birds to humans has not been documented. According to the Louisiana department of Health and Hospitals and the U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, there is no evidence that a person can get West Nile virus from handling live or dead infected birds.

Hunters can wear gloves while dressing birds to prevent blood contact with bare skin, and doves should be cooked thoroughly. The best protection against West Nile virus and other mosquito borne illnesses is the use of mosquito repellent and wearing of appropriate clothing while afield.

SECRETARY'S COMMENTS

(continued from page 2)

the hunter, and the prey. All of these activities create a market for live deer. This market can provide financial incentives for unscrupulous people to illegally capture and sell wild fawns or ignore importation rules and bring deer into Louisiana that are infected with CWD or other serious diseases.

In the coming months, this department and the Louisiana Department of Agriculture and Forestry will be monitoring wild and captive deer for CWD. The Department of Wildlife and Fisheries will also consider changes in regulations that will reflect our concerns regarding captive cervids. In addition to their ecological value, wild deer have an economic impact in excess of $600 million per year to our state. We will make every effort to protect our wild deer resources and prevent the introduction of chronic wasting disease into Louisiana.

More information on CWD is available on the Department's web site (*www.wlf.state.la.us*).

For the latest developments, visit the News & Events section of our website: *www.wlf.state.la.us*

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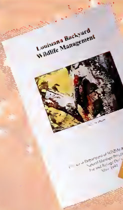

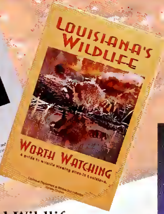

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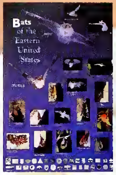

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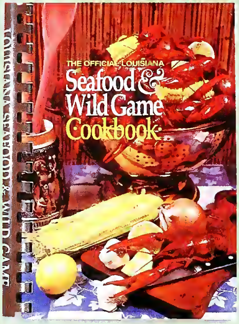

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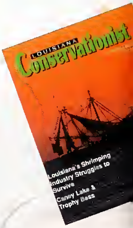
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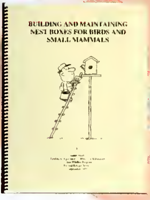
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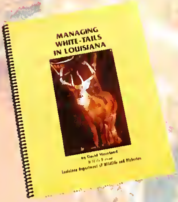

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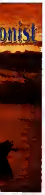

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LAW lines

BY
MAJOR KEITH LACAZE

Migratory Bird DOs and DON'Ts

September and October bring the long-awaited return of hunting season to Louisiana hunters who have made it through the long, hot summer. September 7 is the opening day of the first segment of mourning dove season (Sept. 7-15). The next segment runs from October 12 to November 24. Also, the special teal season runs from September 21-29. More rules regarding doves can be found in the 2002-2003 Louisiana Hunting Regulations pamphlet. Teal regulations are available in the Louisiana Migratory Waterfowl Regulations pamphlet.

Now let's discuss some of the more common migratory game bird violations and how the hunter can avoid getting into trouble.

Hunting doves and waterfowl (ducks and geese) over bait is a serious violation. Each year in Louisiana, hunters are cited for hunting over bait and for placing bait for the purpose of taking migratory game birds. Neither infraction is looked upon with favor by federal judges and prosecutors.

The regulations governing hunting mourning doves are less stringent than those for waterfowl since agricultural crops grown on the field may be manipulated for dove. Doves may be hunted in fields where grain has been distributed or scattered solely as the result of a normal agricultural operation, which includes normal agricultural plantings, harvestings, or post-harvest manipulations. Doves may be hunted over fields where other normal agricultural practices have occurred, if they are conducted in accordance with official recommendations of the USDA State Extension Specialists.

In order for the hunter to protect himself from hunting over bait without knowing it, follow two simple rules: 1. Before going into the field to hunt, ask whoever has the field if it is baited. 2. When you arrive in the field, walk around and look for any suspicious seed or feed before beginning the hunt. On freshly plowed or disced fields, kick the soil over to make sure no illegal bait has been turned over before your arrival. If you do not like what you are told or what you see in the field, leave. A lost hunting opportunity is better than a federal citation for hunting over bait.

Possessing or receiving untagged birds is another common violation and tagging is misunderstood by many hunters. Here is a common situation where a hunter ends up being cited for possessing or receiving untagged birds when he was not even aware a regulation had been violated: Joe and Bill are hunting mourning doves. Bill has five mourning doves, but has had enough and decides to leave. He does not want to take the doves home so he walks over and gives them to Joe. Joe is knocking them down pretty well, so he continues to hunt. Before long Joe has 11 doves in his bag. He only needs one more for his limit. But he also has the five doves Bill gave him when he left. A wildlife agent approaches for a bag check and finds Joe with 16 mourning doves. Joe is cited for field possession of over the limit of mourning doves.

Where did they go wrong? The mistake was made when Bill left his doves with Joe in the field. The law requires the hunter to maintain possession or custody of his birds in the field. The law also prohibits the possession of more than the daily bag limit of migratory game birds in the field. The field is defined as where the birds were killed and from there to the principle means of land transportation (truck or car), camp or home.

How could it have been done right? Bill should have taken his doves to Joe's vehicle, home or camp. He should have tagged the birds with his name, address, the total number of birds, by species and the date the birds were killed, before leaving them. Joe could then have completed his limit and left the field. He could then have legally taken possession of Bill's tagged doves and transported them.

Now we can discuss daily limits and possession limits. A daily limit is the maximum number of migratory game birds which may be taken on any one day. A daily limit may be possessed by the hunter at any location. So long as the hunter keeps his daily limit in his possession, tagging is not required.

A possession limit is the maximum number of migratory game birds which may be possessed by the hunter in any location beyond the field, at any time. It is usually twice the daily bag limit but not always. Check the regulations since possession limits may vary from the customary two daily limits for some species, such as snow, blue and Ross' geese. Possession limits, tagged or otherwise may not be possessed in the field. The only exception to the possession limit regulation is birds left with a taxidermist. These birds do not count in the possession limit.

Finally, is tagging always necessary when placing or leaving migratory game birds somewhere or with someone else? The answer is yes with two exceptions. Birds left at the hunter's home and birds given to someone else who resides in the hunter's home do not need to be tagged.

If you are confused by these or any other regulations or believe you have a hunting situation for which you need clarification on applicable regulations, contact your nearest Louisiana Department of Wildlife and Fisheries, Enforcement Division region office for help. Practice hunter safety and report all violations via the Louisiana Operation Game Thief 24 hour, toll free number 800-442-2511.

C'est Bon!

from the

Official Louisiana Seafood and Wild Game Cookbook

Alligator Etouffe

2 onions chopped
2 cloves garlic, minced
4 stalks celery, chopped
1 can tomatoes
Salt, cayenne and black pepper
1 lb. alligator meat, cut in thin strips
2 sticks butter
1/2 cup green onions, chopped
1/4 cup parsley, minced

Saute onions, garlic and celery in butter until soft. Add tomatoes and simmer for twenty minutes in covered iron pot. Add alligator meat and let cook over low fire until tender (approximately one hour). If gravy is too thick, add a little hot water. Serve over rice.

Potato Salad

8 med. red potatoes, boiled, peeled and diced
6 med. green onions, thinly sliced
3 hard cooked eggs, coarsely chopped
2 large celery stalks, thinly sliced
2 tablespoons chopped fresh parsley
1/2 cup Miracle Whip Salad Dressing
1/2 cup mayonnaise
1/4 cup Durkee Famous Sandwich & Salad Sauce
2 tablespoons sweet pickle relish

Combine potatoes, green onions, eggs, celery and parsley in large bowl. Combine remaining ingredients in small bowl and mix well. Add to potato mixture and toss gently. Serve at room temperature or chilled. Serves 12.

Banana Split Cake

2 cups graham cracker crumbs
3 sticks margarine
2 eggs
2 cups confectioner's sugar
4 large bananas
1 lg. can drained crushed pineapple
Cool Whip
3/4 cup chopped pecans
Small bottle of cherries

For Crust: Mix 2 cups graham cracker crumbs and 1 stick of melted margarine. Press together in Corning Ware dish 10x10x2 inches. Set aside.

Filling: Mix 2 cups confectioner's sugar, and 2 sticks of margarine (at room temp.) and 2 eggs. Beat 15 minutes or until creamy. Now pour into crust.

Topping: Slice 4 large bananas over filling. Cover with one can drained crushed pineapple. Cover with Cool Whip. (Top with chopped pecans and drained cherries). Refrigerate for 6 to 8 hours with cover on. Serves 10 to 12.

Photo by David Humphreys